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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Urs Burckhardt

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EXAMINER

HEINCER, LIAM J

ART UNIT

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1796

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,138	<b>Applicant(s)</b> BURCKHARDT, URS	
	<b>Examiner</b> Liam J. Heincer	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 14-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 17 recites a range for the number of carbon atoms in R<sup>1</sup>. This range is not disclosed in the original specification or claims which only disclose the broader range disclosed in claim 1 (page 5).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claim 1: Merger et al. teaches a polyaldimine (3:3-4) which is obtainable from at least one polyamine having aliphatic primary amino groups (7:48-62) and at least one aldehyde (8:67-9:17).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using an aldehyde of the claimed formula in a polyaldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with the same field of endeavor, namely polyaldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the composition of Merger et al., and the motivation to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Considering Claim 2: Merger et al. teaches the polyamine as being 1,6-hexamethylene diamine, 2,2,4-trimethylhexanamethylenediamine (7:57-58) or IPDA (8:13-14).

Considering Claims 3 and 4: Claims 3 and 4 are product by process claims. There is nothing on the record to show that these process steps will provide a materially different composition from those of the references.

Considering Claim 5: Merger et al. teaches the aldehyde as being present stoichiometrically, or in a stoichiometric excess (7:31-33).

Considering Claim 6: Merger et al. teaches an aldehyde with methyl groups at the alpha position (7:22-31 and 3:59-62).

Considering Claim 17: The polyaldimine of the combination of Merger et al. and Aoki et al. is a homologue of the claimed structure. Therefore there would be a reasonable expectation that the two structures would have similar properties. Therefore the claimed structure is obvious over the disclosed structure. See MPEP § 2144.09.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claim 7: Merger et al. teaches a process for preparing a polyaldimine (7:17-22) comprising reacting a polyamine having aliphatic primary amino groups (7:48-62) and at least one aldehyde (8:67-9:17).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using a aldehyde of the claimed formula in a polyaldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with

the same field of endeavor, namely polyaldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the process of Merger et al., and the motivation to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claim 14: Merger et al. teaches a polyaldimine (3:3-4) which is obtainable from at least one polyamine having aliphatic primary amino groups (7:48-62) and at least one aldehyde (8:67-9:17). Merger et al. also teaches the polyaldimine as undergoing hydrolysis when contacted with moisture/gaseous water (9:37-38).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using a aldehyde of the claimed formula in a polyaldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with the same field of endeavor, namely polyaldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the composition of Merger et al., and the motivation to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Considering Claim 16: Merger et al. teaches the composition being in a composition comprising isocyanate groups (2:65-66).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161) as applied to claim 7 above, and further in view of Jacobsen et al. (US Pat. 3,935,274).

Considering Claims 8 and 9: Merger et al. and Aoki et al. collectively teach the process of claim 7 as shown above.

Merger et al. does not teach preparing the aldehyde from a carboxylic acid and a  $\beta$ -hydroxy aldehyde. However, Aoki et al. teaches preparing the aldehyde from a

carboxylic acid and 3-hydroxy-2,2, dimethyl propanol/3-hydroxypivalaldehyde (8:16-18). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a aldehyde prepared as in Aoki et al. in the process of Merger et al., and the motivation to do so would have been the composition's lower viscosity (Table 4).

Merger et al. does not teach the  $\beta$ -hydroxy aldehyde as being prepared from a reaction of formaldehyde or paraformaldehyde and a second alcohol. However, Jacobsen et al. teaches forming 3-hydroxypivalaldehyde from formaldehyde and isobutyraldehyde (1:7-10). Merger et al. and Jacobsen et al. are combinable as they are concerned with the same field of endeavor, namely aldehyde compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde preparation of Jacobsen et al. in the process of Merger et al., and the motivation to do so would have been, as Jacobsen et al. suggests, to give a highly reactive  $\beta$ -hydroxy aldehyde (1:38-39).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161) as applied to claim 7 above, and further in view of Wagner et al. (US Pat. 3,835,191).

Considering Claim 10: Merger et al. and Aoki et al. collectively teach the process of claim 7 as shown above.

Merger et al. does not teach there being no solvents used during the preparation of the polyaldimine. However, Wagner et al. teaches making an aldimine (1:44-48) with no solvents (10:40-44). Merger et al. and Wagner et al. are combinable as they are concerned with the same technical difficulty, namely aldimine formation. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have not used solvents in the process of Merger et al. as in Wagner et al., and the motivation to do so would have been, as Wagner et al. suggests, to eliminate the removal of solvents step (15:28-30).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161) as applied to claim 1 above, and further in view of Aoki et al. (JP 07025976). Note a machine translation is being used for Aoki et al. and all references will be to this translation.

Considering Claim 15: Merger et al. and Aoki et al. collectively teach the process of claim 1 as shown above. Merger et al. also teaches the polyaldimine as hydrolyzing the in presence of water (37-40).

Merger et al. does not teach adding a water-containing component to the composition. However, Aoki et al. '976 teaches adding water/a water-containing component (§0005) to a composition comprising a polyamine containing latent curing agent/a polyaldamine (§0006). Merger et al. and Aoki et al. '976 are combinable as they are concerned with the same field of endeavor, namely isocyanate compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have added the water of Aoki et al. '976 to the composition of Merger et al., and the motivation to do so would have been, as Aoki et al. '976 teaches, to obtain a cured product (§0005).

### ***Response to Arguments***

Applicant's arguments filed April 2, 2008 have been fully considered but they are not persuasive, because:

A) Applicant's argument that Aoki teaches away from the claimed invention is not persuasive. The reference is being relied upon for all that it discloses, not just the preferred embodiments. As Aoki et al. explicitly teaches the alkyl chain as having up to 16 carbon atoms (Formula IV), the limitation is met even if the preferred embodiments do not teach the claimed range.

B) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine the teachings would have been, as Aoki et al. suggests, the aldehyde is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

C) Applicant's argument that the secondary references do not rectify the deficiencies of the combination of Merger et al. and Aoki et al. are not persuasive as the alleged deficiencies have been addressed above.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARK EASHOO/

Supervisory Patent Examiner, Art Unit 1796

5-May-08

LJH

April 23, 2008